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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,501	06/23/2003	Screenath Kurupati	P16515	9683

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EXAMINER	
ROSE, KERRI M	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/601,501	KURUPATI, SCREENATH	
	Examiner	Art Unit	
	Kerri M. Rose	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 17-24* is/are rejected.

7)☒ Claim(s) *13-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 June 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: fig. 7 element 740. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because it is too short. Although the abstract should be concise, it must give an adequate overview of the invention. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Applicant is advised that should claim 2 be found allowable, claim 6 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight

difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9, 21, and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. There is no useful and tangible result. The method as stated is simply an algorithm to determine a requestor.

Claim Rejections - 35 USC § 102

5. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Watts (US 6,647,449).

6. In regards to claim 1, Watts discloses a method, comprising: determining a request vector, wherein each bit in the request vector represents a requestor and indicates if that requestor is requesting a resource (figure 3 element 36 and column 3 lines 2-4); masking a portion of the request vector based on a previously selected requester (fig. 3.42 and col. 3 lines 10-17); and selecting a requestor in accordance with the masked request vector (fig. 2.32 and col. 2 lines 62 and 63).

7. In regards to claims 2 and 6, Watts discloses the method of claim 1, wherein the request vector is an N-bit request vector having bits [b.sub.N-1, . . . , b.sub.0], and said masking comprises: masking bits b.sub.L through b.sub.0 in the request vector, wherein b.sub.L represents the previously selected requestor (col. 3 lines 13-17).

8. In regards to claim 3, Watts discloses the method of claim 2, wherein said masking comprises: creating an N-bit mask vector having bits [m.sub.N-1, . . . , m.sub.0], wherein bits m.sub.N-1 through m.sub.L+1 are set to one and bits m.sub.L through m.sub.0 are set to zero; and combining the request vector and the mask vector via a Boolean AND operation (col. 3 lines 17-22).

9. In regards to claim 4, Watts discloses the method of claim 2, wherein said selecting comprises: selecting the requestor associated with the least significant bit in the masked request vector that indicates the requestor is requesting a resource (fig.4.48 and col. 4 lines 29-33. The mask blocks the most recently served request and all higher priority requests. The next highest priority request, the one represented by the least significant bit will then be chosen.).

10. In regards to claim 5, Watts discloses the method of claim 4, wherein said selecting is performed via a priority encoder (col. 4 line 30).

11. In regards to claim 7, Watts discloses the method of claim 6, wherein said selecting comprises: selecting the requestor associated with the most significant bit in the masked request vector that indicates the requestor is requesting a resource (col. 3 lines 47-53. The illustrated example encodes the highest priority request into the least significant bit. However, this can easily be reversed, as explained, so that the next eligible requestor is represented by the most significant bit in the vector.).

12. In regards to claim 8, Watts discloses the method of claim 1, further comprising: allocating the resource to the selected requestor (col. 2 lines 62 and 63 indicate the request is serviced.).

13. In regards to claim 9, Watts discloses the method of claim 1, further comprising: if no bit in the masked request vector indicates the requester is requesting a resource, selecting a requester in accordance with the un-masked request vector (col. 3 lines 31-34).

14. In regards to claim 10, Watts discloses an apparatus, comprising: a masking unit (fig. 2 element 24) to receive a request vector and to provide a masked request vector, wherein each bit in the request vector represents a requestor and indicates if that requestor is requesting a resource; and a first priority encoder (fig. 2.26) to receive the masked request vector from the masking unit and to output a signal indicating a selected requestor.

15. In regards to claim 11, Watts discloses the apparatus of claim 10, wherein the request vector is an N-bit request vector having bits [b.sub.N-1, . . . , b.sub.0], the masking unit is to mask bits b.sub.L through b.sub.0, b.sub.L representing the previously selected requester (col. 3 lines 13-17), and the signal output by the first priority encoder represents the least significant bit in the masked request vector that indicates the requestor is requesting a resource (fig.4.48 and col. 4 lines 29-33. The mask blocks the most recently served request and all higher priority requests. The next highest priority request, the one represented by the least significant bit will then be chosen.).

16. In regards to claim 12, Watts discloses the apparatus of claim 10, wherein the request vector is an N-bit request vector having bits [b.sub.N-1, . . . , b.sub.0], the masking unit is to mask bits b.sub.N-1 through b.sub.L, b.sub.L representing the previously selected requestor (col. 3 lines 13-17), and the signal output by the first priority encoder represents the most significant bit in the masked request vector that indicates the requester is requesting a resource (col. 3 lines 47-53. The illustrated example encodes the highest priority request into the least significant bit.

However, this can easily be reversed, as explained, so that the next eligible requestor is represented by the most significant bit in the vector.).

17. Claims 21-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Chou et al. (US 7,054,330).

18. In regards to claim 21, Chou discloses an apparatus, comprising: a storage medium having stored thereon instructions that when executed by a machine result in the following (Column 4 lines 60-64 indicate software may be used to implement the invention. Therefore, a storage medium to store the software instructions must be present.): determining a request vector, wherein each bit in the request vector represents a requestor and indicates if that requestor is requesting a resource (col. 3 lines 56-64); masking a portion of the request vector based on a previously selected requestor (col. 4 lines 18-20); and selecting a requestor in accordance with the masked request vector (col. 4 lines 25-30).

19. In regards to claim 22, Chou discloses the apparatus of claim 21, wherein execution of the instructions further result in: allocating the resource to the selected requester (Column 5 lines 52-54 indicate that each requestor has one request processed during each round. In order for a request to be processed resources must be allocated to it when it is the selected request.).

20. In regards to claim 23, Chou discloses a switch (col. 3 lines 32-35), comprising: an Ethernet interface (col. 3 lines 35-37); and a resource allocation unit, including: a masking unit (fig. 3.304) to receive a request vector (fig. 3.310) and to provide a masked request vector (fig. 3.302), wherein each bit in the request vector represents a requestor and indicates if that requestor is requesting a resource (col. 3 lines 57 and 58); and a first priority encoder to receive

the masked request vector from the masking unit and to output a signal indicating a selected requester (col. 4 lines 24-39).

21. In regards to claim 24, Chou discloses the switch of claim 23, wherein each requestor is associated with a media application control module (col. 3 lines 58-62) and the resource is associated with information packet processing (col. 1 line 49).

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watts (US 6,647,449) in view of Chou et al. (US 7,054,330).

24. In regards to claim 17, Watts discloses the apparatus of claim 10, but not wherein the apparatus is associated with at least one of: (i) a packet network, (ii) a local area network, (iii) an Ethernet network, (iv) a switch, and (v) a router.

Chou discloses a packet network (col. 1 line 49), a LAN (col. 2 line 10), an Ethernet network (col. 1 line 32), a switch (col. 3 line 28), and a router (col. 3 line 28).

It would have been obvious to one of ordinary skill in the art to modify the arbitration system of Watts to include the arbitration system of Chou, which uses a switch or router to interconnect many different types of networks, because as taught in column 3 lines 51 and 52, Chou's method enforces priority and maintains fairness.

25. In regards to claim 18, Watts discloses the apparatus of claim 10, wherein each requester is associated with a media application control module.

Chou discloses a media application control module in col. 3 lines 58-62.

It would have been obvious to one of ordinary skill in the art to modify the arbitration system of Watts to include the arbitration system of Chou, which uses a switch or router to interconnect many different types of networks, because as taught in column 3 lines 51 and 52, Chou's method enforces priority and maintains fairness.

26. In regards to claim 19, Watts discloses the apparatus of claim 10, but not wherein the selected requestor is associated with an information packet to be processed.

Chou discloses processing a packet in column 1 line 49.

It would have been obvious to one of ordinary skill in the art to modify the arbitration system of Watts to include the arbitration system of Chou, which uses a switch or router to interconnect many different types of networks, because as taught in column 3 lines 51 and 52, Chou's method enforces priority and maintains fairness.

27. In regards to claim 20, Watts discloses the apparatus of claim 10, but not wherein the apparatus is associated with at least one of: (i) an application specific integrated circuit device, (ii) a field-programmable gate array device, and (iii) a custom integrated circuit.

Chou discloses using any type of hardware in column 4 lines 60-64. Figure 5 discloses an example hardware configuration.

It would have been obvious to one of ordinary skill in the art to modify the arbitration system of Watts to include the arbitration system of Chou, which uses a switch or router to

interconnect many different types of networks, because as taught in column 3 lines 51 and 52, Chou's method enforces priority and maintains fairness.

Allowable Subject Matter

28. Claims 13-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Rose whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Thursday, 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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